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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/994,899      | 11/28/2001  | Takumi Kitahara      | ZU-405              | 8028             |

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EXAMINER

MANOHARAN, VIRGINIA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1764

DATE MAILED: 01/06/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/994,899

Applicant(s)

KITAHARA ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 9-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Upon reconsideration, the restriction requirement dated September 5, 2002, paper # 4 is hereby withdrawn.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The abstract of the disclosure is objected to because of the inclusion of legal phraseology often used in patent claims. For examples "comprises" recited in lines 3 and 8. Correction is required. See MPEP § 608.01(b).

The specifications has not been checked to the extent necessary to determine the presence of the possible minor errors e.g., typographical, grammar, idiomatic, syntax and etc.

Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

Claims 1-2, 4-5 and 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. It is unclear as to what constitute the "halogenating agent", within the context of the claimed invention, as it is not specified in the claims.

b. It is not clear whether the claimed "a titanium halide" in claim 2, line 6, is different or the same as the "a titanium halide" initially recited in line 3 of claim 2?  
(Underlinings supplied).

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c. In claim 2, line 5 “the distillation” should be – the distilling – for consistent used of terminology in the claims.

d. The claimed “to recover a part of the titanium halide” in claim 2 provides for ambiguity and confusion. For example what happen to the other part? Where is the part recovered overhead or the bottoms product of the distilling operation? See also claim 5.

e. Claims 13 and 14 are at odd with the claims from which they depend i.e., claims 1 and 2 respectively. The preambles of these claims recite “A process for preparing a catalyst for polymer production”, whereas the preambles of claims 1 and 2 recite “A method for recovering a titanium compound” which are inconsistent therewith [A dependent claim incorporates every features of the claim from which it depends and cannot change or orient the limitations already recited in the independent claim]

Claims 13 and 14 provide for the use of the titanium halide obtained by the method of claims 1 and 2 respectively, but, since the claims do not set forth any steps involved in the methods/processes, it is unclear what methods/processes applicants are intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 13 and 14 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

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Claims 13 and 14 recite "A process for preparing a catalyst for polymer production", however, there are no method steps of preparing or manufacturing recited in the bodies of the claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-5 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Potter et al in view of Band.

Potter disclose substantially the process as claimed. See e.g., col. 2, lines 20-32 and cols. 3-6. The process of Potter et al differs from the claimed invention in that claims 1 and 2 for examples, recite the conversion of titanium alkoxide to a titanium halide upon contact with a halogenating agent. However, said difference does not constitute a patentable distinction inasmuch as Band, col. 4, lines 7-41, teaches that "the halogenating agent functions to transform the solubilized metal alkoxide to an insoluble metal halide support. The conversion from metal alkoxide to metal halide may be partial or complete ..."

To incorporate Band's teaching, supra, to the process of Potter would have been obvious to one of ordinary skill in the art since both are directed to the same processing environment i.e., involving treatment e.g. of a titanium halide- containing material.

The claimed "waste solution is a solution formed when a catalyst for polymer production or a catalyst component for polymer production is prepared" as claimed in claims 9-12 is rendered obvious by Potter at col. 2, lines 48-67.

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The process for preparing a catalyst for polymer production as claimed in claims 13 and 14 is rendered obvious by Band e.g., at col. 1, lines 25-28.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Zum Mallen discloses a method of preparing compounds including titanium and magnesium alkoxide.
- b. Wilson et al teaches a process comprising reacting a magnesium compound with a titanium compound wherein either one is halogenated.
- c. Job discloses an olefin polymerization catalyst.
- d. Stambaugh discloses a process for purifying titanium tetrachloride.
- e. Clark et al disclose a method of purifying crude  $TiCl_4$ .
- f. Asanuma et al discloses a purification process of polymerization solvent.
- g. Clabaugh et al discloses the preparation of pure titanium tetrachloride.
- h. Fahnoe et al discloses the purification of titanium tetrachloride by distillation.

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i. Jezl discloses that the titanium trichloride catalyst used in the polymerization can be prepared by any convenient means

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 703-308-3844. The examiner can normally be reached on Tuesday-Friday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9462 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

V. Manoharan/mn  
December 30, 2002

  
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12/30/02